

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARIO FRYBERG, STEFAN SCHUTTEL, and HIROSHI TOMIMASU

MAILED

SEP 20 2004

U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 2004-1906
Application No. 09/040,825

ON BRIEF

Before WALTZ, KRATZ, and JEFFREY T. SMITH, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's refusal to allow claims 3, 4 and 6 through 13, the only claims pending in this application, as amended subsequent to the final rejection (see the amendment dated Dec. 9, 2002, Paper No. 28, entered as per the Advisory Action dated Dec. 19, 2002, Paper No. 30). We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to a recording sheet for ink jet printing having enhanced light fastness properties and improved water fastness where the recording sheet

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comprises a support onto which are coated one or more layers, and at least one of these layers contains at least one polymeric mordant combined with a binder or mixture of binders (Brief, page 3). The specific structure of the polymeric mordant is set forth in a copy of representative independent claim 12 which is attached as an Appendix to this decision.

Appellants state that the claims on appeal do not stand or fall together but group the claims into Group I (claims 3, 4, and 6-12) and Group II (claim 13) (Brief, page 6). However, as correctly noted by the examiner (Answer, page 3, ¶(7)), appellants have not provided any specific, substantive reasons for the separate patentability of any individual claim (see the Brief in its entirety). Accordingly, we select independent claim 12 as representative of the grouped claims and decide the grounds of rejection in this appeal on the basis of this claim alone. See 37 CFR § 1.192(c)(7) (1995); *In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002).

The examiner has relied upon the following references as evidence of obviousness:

Kono et al. (Kono)	4,801,497	Jan. 31, 1989
Smigo et al. (Smigo)	5,281,307	Jan. 25, 1994

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The claims on appeal stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which appellants regard as their invention (Answer, page 3). The claims on appeal also stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kono in view of Smigo (Answer, page 4).¹ We affirm the rejection based on section 103(a) but reverse the rejection based on section 112, second paragraph, for reasons which follow. Accordingly, the decision of the examiner is affirmed.

OPINION

A. The Rejection under § 112, ¶2

The examiner finds that the "enhanced light fastness properties" limitation set forth in claims 12 and 13 renders the claims indefinite because it is not clear what the comparison point is for determining whether a recording sheet comprising the layer has enhanced light fastness properties (Answer, page 4). The examiner also finds that appellants' specification, at pages 14-15, describes one test for determining light fastness but questions

¹The final rejection of claims 3, 4 and 6-13 under section 103(a) over Kashiwazaki et al. (U.S. Patent No. 5,281,307) in view of Smigo has been withdrawn by the examiner (Answer, page 2, ¶(6)).

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what other light fastness properties can be or must be enhanced in order to meet the claimed limitation (*id.*).

Appellants argue that the specification sets forth one test for measuring light fastness (page 14, line 31-page 15, line 3) and all Examples in the specification exhibit considerable improvement in light stability as measured by this test (Brief, pages 11-12).

The initial burden of establishing unpatentability, on any ground, rests with the examiner. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The legal standard for establishing definiteness of claim language is whether one of ordinary skill in the art would have been apprised of the scope of the claim. See *In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). It is undisputed that appellants have disclosed one test for measuring or determining light fastness properties of a recording sheet. The examiner has not met the initial burden of establishing, by reasoning or technical knowledge, why other tests for measuring this same property should be required. Furthermore, the examiner has not established why one of ordinary skill in the art would not have been apprised of the scope of the claim, especially in view of appellants' specification which describes the "distinct beneficial effect" (i.e., enhanced light fastness properties) of the presently claimed copolymers over

receiving layers containing only the gelatine binder (i.e., no copolymer in the receiving layer, see the specification, page 18, Table 3, and page 20, Table 6).

For the foregoing reasons, we determine that the examiner has not met the initial burden of establishing a *prima facie* case of indefiniteness of the claim language within the meaning of section 112, second paragraph. Therefore we cannot sustain the examiner's rejection of claims 3, 4 and 6-13 under section 112, second paragraph.

B. The Rejection under § 103(a)

The examiner finds that Kono discloses recording media for ink jet printing comprising a support and at least one ink-receptive layer, where Kono teaches the use of a cationically modified polyvinyl alcohol (PVA) in the ink-receptive layer (Answer, page 4). The examiner further finds that Kono teaches that the cationic group is present in the polymer in an amount between 0.05 and 20 mole percent, and the cationically modified PVA is used in combination with one or more other polymers (*id.*).

The examiner recognizes that Kono does not explicitly disclose a copolymer of the general structure set forth in claim 12 although such a copolymer is within the generic disclosure of Kono's

cationically modified PVA (Answer, page 5).² Therefore the examiner applies Smigo for the disclosure of paper coated with a PVA/vinyl amine copolymer containing the same/similar amounts of vinylamine units as the copolymer taught by Kono (*id.*). From these findings, the examiner concludes that it would have been obvious to one of ordinary skill in the art to use the copolymers disclosed by Smigo as the cationically modified PVA used in the recording medium of Kono since the copolymers taught by Smigo meet the requirements of Kono including the mole percent amounts for the cationic group (Answer, page 6). We agree.

Appellants argue that the examiner has "incorrectly characterized" Kono as disclosing the invention combination of copolymer and binder in the claimed amount of between 10 to 75% by weight of copolymer, based on the combined amount of copolymer and binder (Brief, page 14). According to appellants' calculations, Kono teaches an amount of catPVA (i.e., the copolymer) in the range of 99 to 75% based on the combination of catPVA and Polymer A (i.e., binder) (*id.*).

²Kono describes the cationically modified product of PVA as meaning "PVA having a cationic group such as a primary to tertiary amino group or a quaternary ammonium salt group in a main chain or a side chain." Col. 4, ll. 13-18. As found by the examiner, the copolymer required by claim 12 is a PVA having a primary or secondary amino group (Answer, page 5).

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This argument is not well taken. The examiner's calculations agree with appellants but the examiner correctly notes that the amount of 75% taught by Kono falls within the claimed range (Answer, page 6). Additionally, the examiner notes that other polymers may be used in the combination taught by Kono, thus resulting in lower percentages of catPVA in relation to the combined amounts (Answer, pages 6-7).

Appellants further argue that Kono does not teach a catPVA range between 75 to 99% but "in actuality" the range supported in the Examples is between 77 to 90% by weight which is outside the claimed range (Brief, page 15). Appellants further argue that the comparative example 3 of Kono using 50% by weight catPVA "teaches away" from the present invention since Kono teaches that the overall evaluation of this example was unacceptable (*id.*).

These arguments are also not well taken. As correctly noted by the examiner (Answer, page 9), the disclosure of Kono is not limited to the examples. See *In re Widmer*, 353 F.2d 752, 757, 147 USPQ 518, 523 (CCPA 1965). The examiner also correctly states that comparative example 3 of Kono does not use catPVA (see col. 11, ll. 1-5) and, regardless, Kono teaches an amount (75%) within the scope of the claimed range (Answer, page 9).

Appellants argue that there is no teaching, suggestion, or incentive in the prior art to modify or to combine the teachings of the prior art in the manner suggested by the examiner (Brief, sentence bridging pages 16-17). Appellants argue that there is no teaching of the desirability of combining the copolymers described in the Smigo process with the ink receiving coatings described in Kono (Brief, sentence bridging pages 17-18).

These arguments are not persuasive. The motivation or desirability is found in the prior art, as Kono discloses beneficial results³ achievable for polymers with a structure that is generic to the structure of Smigo, as well as the structure recited in claim 12 on appeal. Kono specifically discloses PVA cationically modified by reacting it with a compound containing a cationic group, where the cationically modified PVA product is PVA having a cationic group "such as a primary to tertiary amino group" in a main chain or a side chain (col. 4, ll. 13-18 and 51-52). As found by the examiner, the copolymer required by claim 12 on appeal is a polyvinyl alcohol (PVA) modified by a primary or secondary amino group (Answer, page 5). Therefore the disclosure of Kono is

³Kono teaches that his invention relates to a recording medium "excellent in the ink receptivity and sharpness of recorded images, and having good light fastness and good blocking resistance." Col. 1, ll. 6-10. See also col. 3, ll. 11-17.

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generic to three types of amino modified PVAs (primary, secondary, and tertiary) on the main or side chain while claim 12 on appeal is limited to two types of amino modified PVAs on the main chain. Therefore the limited disclosure of cationically modified PVAs by Kono would have *prima facie* suggested the claimed structures. See *Merck & Co. v. Biocraft Labs.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989); *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972); and *In re Susi*, 440 F.2d 442, 445, 169 USPQ 423, 425 (CCPA 1971). Furthermore, as found by the examiner, Kono discloses amounts (mole percent) of the cationic group within the claimed ranges (Answer, page 5, see the values for "y"). Smigo has been applied by the examiner to show specific copolymers within the requirements (i.e., structure and mole percent cationic group) of Kono were known in the art (Answer, page 6).

Appellants argue that Kono does not teach the binder system used in the invention (Brief, page 18). This argument is not well taken since Kono discloses the same binder as preferred by appellants (see col. 7, l. 38).

Appellants argue that the copolymers of Smigo are added and incorporated to the pulp in order to create a paper having increased strength and tear resistance (Brief, page 18). This argument is not persuasive since Smigo does not teach adding the

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copolymer to the wet pulp but teaches adding the copolymer at the "dry end" step of papermaking (Answer, page 10).

For the foregoing reasons and those stated in the Answer, we determine that the examiner has established a *prima facie* case of obviousness in view of the reference evidence. As noted by the examiner, appellants have not submitted an affidavit or declaration under 37 CFR § 1.132 purporting to establish unexpected results (Answer, page 10). Appellants have instead added a footnote on pages 19-21 of the Brief attempting to establish that the combination of Kono and Smigo would not result in the invention recording sheet and would not have enhanced light fastness properties (Brief, page 19). However, the burden is on appellants to explain and establish that, *inter alia*, the comparative results are with the closest prior art, and are commensurate in scope with the subject matter claimed. See *In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 71 (CCPA 1979) (Comparisons must be with the closest prior art to be effective); *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) (Showing must be commensurate with the scope of the claim to be effective). We determine that appellants have not met this burden. As noted by the examiner (Answer, page 10), the comparative results are not commensurate in scope with the claimed subject matter. The comparative results are

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directed to a single copolymer in specific amounts with specific mole amounts of the cation while the claims are not so limited. Furthermore, appellants have not explained why "PVAA" is the same as the copolymer taught by Smigo (or which copolymer of Smigo corresponds to this "PVAA"). Finally, appellants have not established that the results truly are unexpected, since the % loss in densities varies only by a small amount (see Tables 2 and 3). See *In re Merck & Co., Inc.*, 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir. 1986) (Results must be unexpected, not just different, from the prior art). Although the comparison is allegedly between the examples of Kono and Smigo, we note that, as discussed above, "enhanced light fastness properties" pertains to a comparison with the gelatine binder alone.

For the foregoing reasons and those stated in the Answer, we determine that, based on the totality of the record, including due consideration of appellants' evidence and arguments, the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103(a). Therefore we affirm the examiner's rejection of claim 12, and claims 3, 4, 6-11 and 13 which stand or fall with claim 12, under 35 U.S.C. § 103(a) over Kono in view of Smigo.

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C. Summary

The rejection of claims 3, 4, and 6-13 under 35 U.S.C. § 112, ¶2, is reversed. The rejection of claims 3, 4, and 6-13 under 35 U.S.C. § 103(a) over Kono in view of Smigo is affirmed.

The decision of the examiner is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

THOMAS A. WALTZ
Administrative Patent Judge


PETER F. KRATZ
Administrative Patent Judge

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JEFFREY T. SMITH
Administrative Patent Judge

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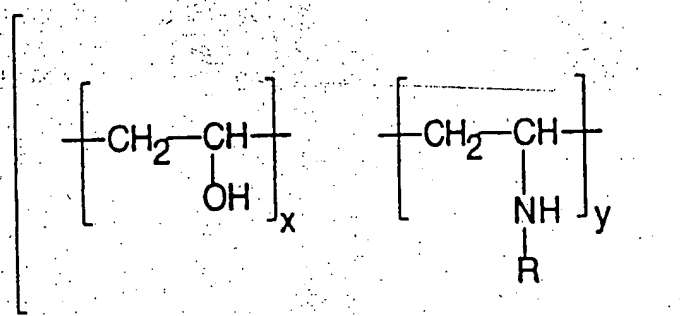
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APPENDIX

12. A recording sheet for ink jet printing comprising a support coated with at least one layer receptive for aqueous inks; wherein said layer contains:

(a) at least one copolymer of the general structure:



where

R = H or alkyl with 1-6 carbon atoms

$x+y=1$

$y = 0.05 - 0.2$

$x=0.8 - 0.95$; and

(b) a binder or mixture of binders;

(c) wherein the quantity of said copolymer is between 10 to 75 weight % of the combined amount of said copolymer and binder and said layer provides the sheet with enhanced light fastness properties.